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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/519,673

10/25/2005

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EXAMINER

ROST, ANDREW J

ART UNIT

PAPER NUMBER

3753

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DELIVERY MODE

07/02/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/519,673	Applicant(s) MATSUHASHI ET AL.	
	Examiner Andrew J. Rost	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/16/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is in response to the amendment filed 4/16/2007. Claim 1 has been amended. No claims have been added. No claims have been canceled. Presently, claims 1-5 are pending.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the specified metal member is up to 0.2 in surface roughness Ra" in lines 13-14. It is unclear as to the units of the surface roughness. Is the surface roughness in micrometers? Microinches? Yards? Miles? Meters? It is unclear as to the units of 0.2 of the surface roughness Ra.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Knapp (5,586,745) in view of Ueda et al. (4,883,544) and further in view of Oda et al. (4,810,585).

Regarding claims 1 and 3, Knapp discloses a valve assembly having a housing (36), an inlet, an outlet, a communication channel, and a needle (18) being fixed to a disc (10) with the disc being attached to a valve stem (20) with the valve stem having threads (22) and a handle (37). Knapp does not disclose the use of the specified alloy. However, Ueda et al. teach the use of an alloy (one example having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy (col. 7, line 65 - col. 8, line 11), the example being listed as Steel sample A in Table 1) with the alloy being used having a CRI value in the range of $40 \leq \text{CRI} \leq 55$ (the CRI value of the example listed above is 51.05, with Cr being 20.12 % by weight, Mo being 6.12 % by weight and N being 0.215 % by weight) and the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance (col. 1, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the needle valve of Knapp with the alloy as taught by Ueda et al. in order to improve the workability and corrosion resistance of the valve assembly. Knapp does not expressly disclose the surface roughness to be up to 0.2. However, Oda et al. teach the limiting of the surface roughness of a metal member to be not more than 0.2 micrometers Ra in

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order to limit liability of fracture due to fatigue (col. 3, line 65 to col. 4, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit the surface roughness of Knapp to not more than 0.2 micrometers Ra as taught by Oda et al. in order to limit liability of fracture of the metal due to fatigue.

In regards to claim 2, Ueda et al. teach the use of tungsten (W) and vanadium (V) to improve the corrosion resistance of stainless steel and with tungsten added up to 2% by weight (col. 9, lines 18-22) and vanadium added up to 1% by weight (col. 9, lines 13-17).

6. Claims 1, 2 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoobyar et al. (5,152,500) in view of Ueda et al. (4,883,544) and further in view of Oda et al. (4,810,585).

Regarding claims 1 and 4, Hoobyar et al. disclose a valve assembly having an inlet (23), an outlet (27), a communication channel, a diaphragm (66) and uses a stainless steel of the metal parts (valve 11 and 12) and has implantable silicone for the diaphragm (66) (col. 5, lines 16-20). Hoobyar et al. do not disclose the use of the specified alloy. However, Ueda et al. teach the use of an alloy (one example having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy (col. 7, line 65 - col. 8, line 11), the example being listed as Steel sample A in Table 1) with the alloy being used

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having a CRI value in the range of $40 \leq \text{CRI} \leq 55$ (the CRI value of the example listed above is 51.05, with Cr being 20.12 % by weight, Mo being 6.12 % by weight and N being 0.215 % by weight) and the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance (col. 1, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the diaphragm valve of Hoobyar et al. with the alloy as taught by Ueda et al. in order to improve the workability and corrosion resistance of the valve assembly. Hoobyar et al. do not expressly disclose the surface roughness to be up to 0.2.

However, Oda et al. teach the limiting of the surface roughness of a metal member to be not more than 0.2 micrometers Ra in order to limit liability of fracture due to fatigue (col. 3, line 65 to col. 4, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to limit the surface roughness of Hoobyar et al. to not more than 0.2 micrometers Ra as taught by Oda et al. in order to limit liability of fracture of the metal due to fatigue.

In regards to claim 2, Ueda et al. teach the use of tungsten (W) and vanadium (V) to improve the corrosion resistance of stainless steel and with tungsten added up to 2% by weight (col. 9, lines 18-22) and vanadium added up to 1% by weight (col. 9, lines 13-17).

7. Claims 1, 2, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Meli (6,039,361) in view of Ueda et al. (4,883,544) and further in view of Oda et al. (4,810,585).

Regarding claims 1 and 5, Meli discloses a pipe coupling that is assembled by tightening a cap nut (36) on an externally threaded portion (32) of a coupling member (20) with all of the components being made of metal with the exception of the O-ring (col. 3, lines 25-31). Meli does not disclose the use of the specified alloy. However, Ueda et al. teach the use of an alloy (one example having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy (col. 7, line 65 - col. 8, line 11), the example being listed as Steel sample A in Table 1) with the alloy being used having a CRI value in the range of $40 \leq \text{CRI} \leq 55$ (the CRI value of the example listed above is 51.05, with Cr being 20.12 % by weight, Mo being 6.12 % by weight and N being 0.215 % by weight) and the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance (col. 1, lines 8-15). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the coupling of Meli with the alloy as taught by Ueda et al. in order to improve the workability and corrosion resistance of the valve assembly. Meli does not expressly disclose the surface roughness to be up to 0.2. However, Oda et al. teach the limiting of the surface roughness of a metal member to be not more than 0.2 micrometers Ra in order to limit liability of fracture due to fatigue (col. 3, line 65 to col. 4, line 3). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made

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to limit the surface roughness of Meli to not more than 0.2 micrometers Ra as taught by Oda et al. in order to limit liability of fracture of the metal due to fatigue.

In regards to claim 2, Ueda et al. teach the use of tungsten (W) and vanadium (V) to improve the corrosion resistance of stainless steel and with tungsten added up to 2% by weight (col. 9, lines 18-22) and vanadium added up to 1% by weight (col. 9, lines 13-17).

Response to Arguments

8. Applicant's arguments filed 4/16/2007 have been fully considered but they are not persuasive. Knapp discloses a valve having a stem and a needle fixed to a disc attached to a stem while Hoobyar et al. disclose a valve assembly having a diaphragm with metal parts and Meli discloses a pipe coupling. Ueda et al. teach the use of an alloy having, in percent weight, 0.01% C, 0.55 % Si, 0.58 % Mn, 0.02 % P, 20.12 % Cr, 18.07 % Ni, 6.12 % Mo, 0.75 % Cu, 0.215 % N and the balance being Fe and other impurities, with small amounts of S and O with the amounts of S and O being limited to as low a level as possible in order to provide hot-workability of the alloy with the alloy being used in order to provide an alloy having excellent workability and excellent corrosion resistance. It has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use. Ueda et al. teach the use of specific ratios of elements in an alloy of various reasons including corrosion resistance and workability of the alloy.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

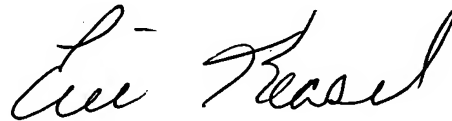
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJR, ASK 6/28/07

A handwritten signature in black ink, appearing to read "Eric Keasel". The signature is fluid and cursive, with a large initial "E" and a long, sweeping underline.

ERIC KEASEL
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700